

EUSSEN ET AL. -- 10/720,752  
Attorney Docket No: 081463-0306993

- Amendment -

### REMARKS

Reconsideration and the timely allowance of the pending claims, in view of the following remarks, are respectfully requested.

In the Office Action dated January 12, 2006, the Examiner rejected claims 8, 16, and 23, under 35 U.S.C. §112, ¶2, as allegedly being indefinite; rejected claims 1-4 and 9, under 35 U.S.C. §102(b), as allegedly being anticipated by Sommargren '066 (U.S. Patent No. 4,859,066); rejected claims 18-24, under 35 U.S.C. §102(b), as allegedly being anticipated by Loopstra '964 (U.S. Patent No. 6,020,964); and rejected claims 5-8 and 10-17, under 35 U.S.C. 103(a), as allegedly being anticipated by Sommargren '066 in view of Loopstra '964.

The Examiner also objected to the Title, as allegedly being non-descriptive, and objected to some of the Drawings as allegedly not being labeled prior art.

By this Amendment, Applicants have amended the Title as well as claims 1, 3, 8, 10-11, 12-17, 18, and 23 to provide a clearer presentation of the claimed subject matter. Applicants submit that no new matter has been introduced. By virtue of the changes to claims 8, 16, and 23, the informalities contained therein have been corrected and the withdrawal of the §112, ¶2 rejections of these claims, is respectfully requested.

Regarding the objections to the Drawings, the Examiner asserted that FIGs. 1, 2, and 3a are prior art and should be labeled as such. Applicants respectfully disagree. Each of these figures describe apparatuses, systems, and/or features that are in accordance with the present invention. There is nothing in the disclosure that suggests that these figures are prior art. As such, the immediate withdrawal of the objections to the Drawings is respectfully requested. Applicants submit that formal drawings will be submitted in due course.

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Applicants respectfully traverse the prior art rejections, under 35 U.S.C. §102(b) and §103(a) for the following reasons.

#### 1. Prior Art Rejections

As noted above, independent claim 1, as amended, now positively recites that the least one reference mirror comprising one or more reference mirror areas that prevent the respective measuring beams and the respective reference beams from passing through said reference mirror. These features are amply supported by the embodiments disclosed in the Specification. (*See, e.g.*, Specification: par. [0088], [0089]; FIGs. 3a, 3b).

By way of background, the Specification provides that a disadvantage of conventional combination interferometer systems is the complexity of the overall system, requiring two beam-splitters and the drilling of holes in one of them. Because beam-splitters are one of the most expensive parts of an interferometer system, the cost of such a system may be lowered and improved by providing a configuration that reduces the cost for the beam-splitters. (*See, e.g.*, Specification: par. [0014]).

With this said, Applicants submit that, unlike the present invention, none of the asserted references teach or suggest each and every element of claim 1, including the features identified above. In particular, the Sommargren '066 reference is directed to a single interferometer system 20 which simultaneously measures linear and angular displacement of a movable plane mirror 90. In so doing, beam 16 is incident on the combined linear and angular displacement interferometer 20 and is used to measure linear displacement of movable plane mirror 90. That is, beam 16 enters polarization beamsplitter 80 and is incident on polarization coating 82, so that polarized beam component 18 while is transmitted while perpendicularly polarized beam component 20 is reflected by surface 86 and ultimately transmitted to stationary (*i.e.*, reference) mirror 89, as beam 26. (*See, e.g.*, Sommargren '066: col. 3, lines 43-59; FIG. 1). Sommargren '066 specifically states, however, that stationary mirror 89 *must have either a hole, a cutout, or a transmitting region to allow beam to pass through it.* (*See, e.g.*, Sommargren '066: col. 3, lines 59; FIG. 1).

EUSSEN ET AL. - 10/720,752  
Attorney Docket No: 081468-0306993

- Amendment -

Thus, as noted above regarding conventional interferometer systems, the Sommargren '066 configuration requires the use of holes or transmitting regions in the reference mirror to operate properly. As such, Sommargren '066 cannot possibly teach or suggest a reference mirror comprising includes one or more reference mirror areas that prevent the respective measuring beams and the respective reference beams from passing through said reference mirror, as required by claim 1. In fact, Sommargren '066 effectively teaches away from such a feature.

Applicants further submit that the secondary reference, Loopstra '964, is incapable of curing the deficiencies identified above relative to Sommargren '066. Stated differently, there can be no suggestion or motivation to combine Sommargren '066 with Loopstra '964 or, for that matter, any other reference that teaches a totally reflective mirror. This is because the Sommargren '066 transmissive reference mirror cannot simply be replaced with any totally reflective mirror, as the Sommargren '066 configuration can only work with the disclosed transmissive mirror.

For at least these reasons, Applicants submit that the none of the asserted references teach or suggest the claimed combination of elements recited by amended claim 1. Accordingly, Applicants submit that claim 1 is neither anticipated nor unpatentable and request the immediate withdrawal of the prior art rejections of claim 1. In addition, because claim 2 depends from claim 1, claim 2 is patentable by virtue of dependency as well as for its additional recitations.

Furthermore, because independent claims 3, 10, 11 and 18 recite similar patentable features as noted above with respect to claim 1, claims 3, 10, 11 and 18 are also patentable for at least the reasons submitted relative to claim 1. And, because claims 4-9, 12-17, and 19-24 depend from independent claim 3, 11 and 18, respectively, claims 4-9, 12-17, and 19-24 are also patentable by virtue of dependency as well as for their additional recitations.

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## II. Conclusion.

All matters having been addressed and in view of the foregoing, Applicants respectfully request the entry of this Amendment, the Examiner's reconsideration of this application, and the immediate allowance of all pending claims.

Applicants' Counsel remains ready to assist the Examiner in any way to facilitate and expedite the prosecution of this matter. If any point remains in issue which the Examiner feels may be best resolved through a personal or telephone interview, please contact the Undersigned at the telephone number listed below.

Please charge any fees associated with the submission of this paper to Deposit Account Number 033975, under Order No. 081468-0306993. The Commissioner for Patents is also authorized to credit any over payments to the above-referenced Deposit Account.

Respectfully submitted,

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